What is claimed is:

1. An apparatus for controlling an optical system at the time of capturing a still image as digital data, comprising:

an instructing part for instructing preparation for image capturing;

a calculator for detecting edges in an image in response to an instruction from said instructing part and calculating an evaluation value indicative of the degree of achieving focus from said edges; and

a controller for driving said optical system while changing a driving speed on the basis of said evaluation value.

2. The apparatus according to claim 1, wherein said evaluation value is obtained on the basis of a histogram of widths of said edges.

3. The apparatus according to claim 2, wherein said evaluation value includes a statistical value obtained from said histogram.

4. The apparatus according to claim 3, wherein said evaluation value includes an edge width corresponding to a center of gravity of said histogram.

5. The apparatus according to claim 1, wherein said evaluation value includes the number of said edges.

6. The apparatus according to claim 1, wherein said controller compares said evaluation value with a threshold value and changes said driving speed in

accordance with a comparison result.

7. The apparatus according to claim 1, wherein said controller compares said evaluation value with a threshold value and, after said optical system is driven in accordance with a comparison result, said evaluation value is calculated again.

8. A method of controlling an optical system at the time of capturing a still image as digital data, comprising the steps of:

instructing preparation for image capturing;

detecting edges in an image in response to an instruction of said preparation for image capturing;

obtaining an evaluation value indicative of the degree of achieving focus from said edges; and

driving said optical system while changing a driving speed on the basis of said evaluation value.

9. A recording medium on which a program for making a controller control an optical system at the time of capturing a still image as digital data is recorded, wherein execution of said program by the controller makes said controller execute the steps of:

instructing preparation for image capturing;

detecting edges in an image in response to an instruction of said preparation for image capturing;

obtaining an evaluation value indicative of the degree of achieving focus from said edges; and

driving said optical system while changing a driving speed on the basis of said evaluation value.

10. An apparatus for controlling an optical system at the time of capturing a still image as digital data, comprising:

an instructing part for instructing preparation for image capturing;

a first calculator for detecting edges in an image and calculating a first evaluation value indicative of the degree of achieving focus from said edges;

a second calculator for calculating contrast of said image and obtaining a second evaluation value indicative of the degree of achieving focus from said contrast; and

a controller for driving said optical system on the basis of said first and second evaluation values in response to an instruction of said preparation for image capturing,

wherein said controller determines a driving direction of said optical system by using said second evaluation value and calculates a driving amount of said optical system by using said first evaluation value.

11. The apparatus according to claim 10, wherein said controller calculates said second evaluation value in first arrangement and second arrangement of said optical system to determine said driving direction such that a degree of achieving focus increases along said driving direction between said first and second arrangement of said optical system.

12. The apparatus according to claim 11, wherein said controller

determines the driving amount between said first and second arrangements on the basis of said first evaluation value in said first arrangement.

13. The apparatus according to claim 10, wherein said first evaluation value is calculated on the basis of widths of said edges.

14. The apparatus according to claim 13, wherein said first evaluation value includes an edge width corresponding to a center of gravity of a histogram of widths of said edges.

15. A method of controlling an optical system at the time of capturing a still image as digital data, comprising the steps of:

instructing preparation for image capturing;

detecting edges in an image in response to an instruction of said preparation for image capturing;

obtaining a first evaluation value indicative of the degree of achieving focus from said edges;

obtaining contrast of said image;

obtaining a second evaluation value indicative of the degree of achieving focus from said contrast;

determining a driving direction of said optical system by using said second evaluation value; and

obtaining a driving amount of said optical system by using said first evaluation value.

16. A recording medium on which a program for making a controller control an optical system at the time of capturing a still image as digital data is recorded, wherein execution of said program by the controller makes said controller execute the step of:

instructing preparation for image capturing;

detecting edges in an image in response to an instruction of said preparation for image capturing;

obtaining a first evaluation value indicative of the degree of achieving focus from said edges

obtaining contrast of said image;

obtaining a second evaluation value indicative of the degree of achieving focus from said contrast;

determining a driving direction of said optical system by using said second evaluation value; and

obtaining a driving amount of said optical system by using said first evaluation value.

17. An apparatus for controlling an optical system at the time of capturing a still image as digital data, comprising:

an instructing part for instructing preparation for image capturing;

a calculator for detecting edges in an image in response to an instruction of said preparation for image capturing and calculating an evaluation value indicative of the degree of achieving focus from said edges; and

a controller for determining a driving direction of said optical system and driving said optical system on the basis of said evaluation value.

18. The apparatus according to claim 17, wherein said controller calculates said evaluation value in first arrangement and second arrangement of said optical system to determine said driving direction such that a degree of achieving focus increases along said driving direction between said first and second arrangement of said optical system.

19. The apparatus according to claim 18, wherein said controller determines the driving amount between said first and second arrangements on the basis of said evaluation value in said first arrangement.

20. A method of controlling an optical system at the time of capturing a still image as digital data, comprising the steps of:

instructing preparation for image capturing;

detecting edges in an image in response to an instruction of said preparation for image capturing;

obtaining an evaluation value indicative of the degree of achieving focus from said edges;

determining a driving direction of said optical system by using said evaluation value; and

driving said optical system on the basis of said evaluation value.

21. A recording medium on which a program for making a controller control an optical system at the time of capturing a still image as digital data is recorded, wherein execution of said program by the controller makes said controller

execute the steps of:

instructing preparation for image capturing;

detecting edges in an image in response to an instruction of said preparation for image capturing;

obtaining an evaluation value indicative of the degree of achieving focus from said edges;

determining a driving direction of said optical system by using said evaluation value; and

driving said optical system by using said evaluation value.

22. An apparatus for controlling an optical system at the time of capturing an image as digital data, comprising:

a detector for detecting edges in an image;

a noise eliminating part for eliminating noise components derived from noises from said edges;

a calculator for calculating an evaluation value indicative of the degree of achieving focus from the edges from which the noise components have been eliminated; and

a controller for driving said optical system on the basis of said evaluation value.

23. The apparatus according to claim 22, wherein said noise component includes edges having an edge width of one pixel.

24. The apparatus according to claim 22, wherein said evaluation value is

calculated on the basis of a histogram of widths of the edges from which the noise components have been eliminated.

25. The apparatus according to claim 24, wherein said evaluation value includes a statistical value obtained from said histogram.

26. The apparatus according to claim 24, wherein said noise component is eliminated by extracting a region where an edge width falls within a predetermined range from the histogram which has not been subjected to noise component elimination yet.

27. The apparatus according to claim 24, wherein said evaluation value includes an edge width corresponding to a center of gravity of the histogram already subjected to the noise component elimination.

28. A method of controlling an optical system at the time of capturing an image as digital data, comprising the steps of:

detecting edges in an image;

eliminating noise components derived from noises from said edges;

calculating an evaluation value indicative of the degree of achieving focus from the edges from which the noise components have been eliminated; and

driving said optical system on the basis of said evaluation value.

29. A recording medium on which a program for making a controller control an optical system at the time of capturing a still image as digital data is

recorded, wherein execution of said program by the controller makes said controller execute the steps of:

detecting edges in an image;

eliminating a noise component derived from noise from said edges;

calculating an evaluation value indicative of the degree of achieving focus from the edges from which the noise components have been eliminated; and

driving said optical system on the basis of said evaluation value.

30. An apparatus for controlling an optical system at the time of capturing an image as digital data, comprising:

a detector for detecting edges in an image;

a calculator for calculating an evaluation value indicative of the degree of achieving focus from edges each having an edge width which is equal to or larger than a predetermined value; and

a controller for driving said optical system on the basis of said evaluation value.

31. A method of controlling an optical system at the time of capturing an image as digital data, comprising the steps of:

detecting edges in an image;

calculating an evaluation value indicative of the degree of achieving focus from edges each having an edge width which is equal to or larger than a predetermined value; and

driving said optical system on the basis of said evaluation value.

32. A recording medium on which a program for making a controller control an optical system at the time of capturing a still image as digital data is recorded, wherein execution of said program by the controller makes said controller execute the steps of:

detecting edges in an image;

calculating an evaluation value indicative of the degree of achieving focus from edges each having an edge width which is equal to or larger than a predetermined value; and

driving said optical system on the basis of said evaluation value.

33. An apparatus for controlling an optical system at the time of capturing an image as digital data, comprising:

a detector for detecting edges in an image;

a calculator for calculating an evaluation value indicative of the degree of achieving focus from said edges; and

a controller for driving said optical system on the basis of said evaluation value,

wherein said calculator calculates a histogram of the widths of said edges, and obtains, as said evaluation value, a representative value of a region where the frequency is higher than a predetermined value in said histogram.

34. The apparatus according to claim 33, wherein said evaluation value includes an edge width corresponding to a center of gravity of said region where the frequency is higher than the predetermined value in said histogram.

35. A method of controlling an optical system at the time of capturing an image as digital data, comprising the steps of:

detecting edges in an image;

obtaining a histogram of widths of said edges;

calculating a representative value of a region where the frequency is higher than a predetermined value in said histogram, as an evaluation value indicative of the degree of achieving focus; and

driving said optical system on the basis of said evaluation value.

36. A recording medium on which a program for making a controller control an optical system at the time of capturing a still image as digital data is recorded, wherein execution of said program by the controller makes said controller execute the steps of:

detecting edges in an image;

obtaining a histogram of widths of said edges;

calculating a representative value of a region where the frequency is higher than a predetermined value in said histogram, as an evaluation value indicative of the degree of achieving focus; and

driving said optical system on the basis of said evaluation value.

37. An apparatus for controlling an optical system at the time of capturing an image as digital data, comprising:

a detector for detecting edges in an image;

a calculator for obtaining an evaluation value indicative of the degree of achieving focus from said edges; and

a controller for obtaining a driving amount of said optical system on the basis of said evaluation value,

wherein said driving amount is changed according to characteristics of said optical system.

38. The apparatus according to claim 37, wherein the characteristics of said optical system include a focal length.

39. The apparatus according to claim 37, wherein the characteristics of said optical system includes an aperture value.

40. The apparatus according to claim 37, wherein said evaluation value is obtained on the basis of the histogram of widths of said edges.

41. The apparatus according to claim 40, wherein said evaluation value includes a statistical value obtained from said histogram.

42. The apparatus according to claim 41, wherein said evaluation value includes an edge width corresponding to a center of gravity of said histogram.

43. A method of controlling an optical system at the time of capturing an image as digital data, comprising the steps of:

detecting edges in an image;

obtaining an evaluation value indicative of the degree of achieving focus from said edges; and

obtaining a driving amount of driving said optical system on the basis of said evaluation value,

wherein said driving amount is changed according to the characteristics of said optical system.

44. A recording medium on which a program for making a controller control an optical system at the time of capturing a still image as digital data is recorded, wherein execution of said program by the controller makes said controller execute the steps of:

detecting edges in an image;

obtaining an evaluation value indicative of the degree of achieving focus from said edges; and

obtaining the driving amount of said optical system on the basis of said evaluation value,

wherein said driving amount is changed according to the characteristics of said optical system.